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--WHAT IS CLAIMED IS: --.
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Claim 3, line 1, delete "for upgrading a
titaniferous mineral";

line 2, change "2" to --18--; change "compound of sodium is" to --additive comprises--.

Claim 4, line 1, delete "for upgrading a titaniferous mineral";

line 2, change "2" to --18--; change "compound of sodium is" to --additive comprises--.

Claim 5, line 1, delete "for upgrading a titaniferous mineral";

line 2, change "2" to --18--; change "compounds include" to --additive comprises--.

Claim 6, line 1, delete "for upgrading a
titaniferous mineral";

line 2, change "2" to --18--; change "compounds comprise" to --additive comprises--.

7. (Amended) A process according to Claim 6, wherein the titaniferous material contains an iron oxide impurity and is heated to a maximum temperature of 1000°C for a period which avoids substantial reduction to metal of [contained] the iron [oxides] oxide impurity.

Claim 10, line 2, after "with" insert --1-20 wt.%--;

lines 3-4, delete "having...hydrochloric acid--.

11.(Amended) A process according to claim [1] 17.
wherein the [compounds include] additive includes compounds
which extend the effect of other compounds in the additive.

Claim 12, line 1, after "11" insert ---,--.

Claim 13, line 1, change "1" to --17,--;

line 2, change "compounds are" to

--additive is--.

Claim 14, line 1, change "1" to --17,--.

Please cancel Claims 1, 2 and 16 without prejudice or disclaimer of the subject matter thereof, and insert the following new claims:

- --17. A process for upgrading of a titaniferous material by removal of impurities, comprising the steps of:
- i) heating a titaniferous material containing impurities under reducing conditions at a temperature of about 1000°C to less than 1300°C in the presence of an additive which promotes formation of a liquid oxide phase containing said impurities at said temperature, to form a solid titaniferous phase and a liquid oxide phase containing said impurities;

- ii) cooling the heated solid titaniferous material and liquid oxide phase to form a solidified material comprising a titaniferous phase and an impurity containing phase that is leachable in an acid or alkaline leachant; and
- iii) leaching the solidified material with an acid leachant or an alkaline leachant to leach at least a portion of said impurities.
- 18. A process according to claim 17, wherein the additive comprises at least one compound selected from the group consisting of compounds of sodium, potassium, lithium, phosphorus, silicon and boron.
- 19. A process according to claim 17, wherein the solidified material is leached with an alkaline leachant.
- 20. A process according to claim 19, further comprising leaching the alkaline leached solidified material with an acid leachant.
- 21. A process according to claim 17, wherein the alkaline leachant is caustic soda.
- 22. A process according to claim 17, wherein the titaniferous material is heated to a temperature of at least 1000°C.
- 23. A process according to claim 17, wherein the titaniferous material is heated under reducing conditions.

- 24. A process according to claim 23, wherein the titaniferous material is heated in the presence of a solid carbonaceous material.
- 25. A process upgrading of a titaniferous material by removal of impurities, comprising the steps of:
- i) heating a titaniferous material containing impurities under reducing conditions at a temperature of less than 1300°C in the presence of an amount of an additive which promotes formation of a liquid oxide phase containing said impurities at said temperature, to produce thereby a solid titaniferous phase and a liquid oxide phase containing said impurities;
- ii) cooling the heated solid titaniferous material and liquid oxide phase to form a solidified material comprising a titaniferous phase and an impurity containing phase that is leachable in an acid or alkaline leachant; and
- iii) leaching the solidified material with an acid leachant or an alkaline leachant to leach at least a portion of said impurities.
- 26. A process according to Claim 25, wherein additive is present in an amount of about 1% by weight of the titaniferous material.